

CUSTOMER

ADVICE

**SPECIFICATION FOR APPROVAL
AC/DC ADAPTOR**

CUSTOMER SPEC:INPUT: 100-240VAC 50/60Hz OUTPUT: 5VDC 3000mA

CUSTOMER DWG./PART NO.

Ktec PART NO KSAFD0500300W1EU (LEAD FREE)

SAMPLE NO: S26458

REV.: A ISSUE

DATE: 2007-12-06

PRODUCT NO: KS011710

Unit Color: Black



White



APPROVED SIGNATURES/客户确认

| | | |
|----------------|----------------|---------------|
| 核准/APPROVED BY | 审核/CHECKED BY: | 检测/TESTED BY: |
| | | |

Manufacturer/制造商

| 业务/SALES | 品管/QE | 核准/APPROVED BY | 制样/DESIGNED BY |
|----------|-------|----------------|----------------|
| PETER | 周松平 | 魏忠 | 毛银娥 |

KUANTECH (SHEN ZHEN) CO., LTD.

冠德科技(深圳)有限公司

地址:中国深圳市宝安区公明镇第二工业区红花路 6 号 518106

ADD:6th HongHua Rd, Gongming Town, ShenZhen city, China
518106

TEL:86-755-27160388 FAX:86-755-27160145

冠玮科技(深圳)有限公司

地址: 深圳市宝安区公明街道将石同富工业区第三栋一楼

TEL:0755-83747454

FAX:0755-83747453

[Http://www.globalsources.com/kuantech.com](http://www.globalsources.com/kuantech.com)



冠德科技(深圳)有限公司
KUANTECH(SHEN ZHEN) COMPANY LIMITED

Switching power supply specification(class B)

KUANTECH P/N:

CUSTOMER P/N:

KSAFD0500300W1EU

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1 GENERAL

1.1 Description

This specification defines the performance characteristics for a class II adapter., single-phase **15** watts. Single output level power supply.

- Simple design philosophy.
- Overload Latch-Off protection during either (a) specified power threshold requirements or (b) short circuit condition.
- Reliability level of **50K** hours MTBF & 0.5% annual field failure rate @ 25° C.
- DC output voltage must be Safe Extra Low Voltage (SELV) & Limited Power as defined by IEC60950 3rd edition.

The maximum room ambient temperature (T_{mra}), as mentioned in clause 1.4.12 of IEC 60950 3rd edition, for the external power supply is **35°C**.

- Cooling: natural convection.

2 INPUT REQUIREMENTS

2.1 Input Conditions

The Supply shall operate over the voltage ranges as follows:

| | |
|--------------------------------|--|
| Rated input voltage | 100-240Vac |
| Operating range | 90-264Vac |
| Rated input frequency | 50/60Hz +/- 3Hz |
| Rated input current | 0.4A max. |
| Maximum input power | 21.43W |
| Input current(no loading) | ≤25mA |
| Power consumption (no loading) | Max. 0.5W |
| Primary current protection | An adequate internal fuse on the AC input line is provide. |
| Configuration | 2 Conductor |

2.2 AC Inrush Current

Peak inrush current shall be limited to **60 A** for a cold start. Under both cold & warm start conditions, there shall be no immediate damage or long term impact on the reliability of the Supply. The conformance test for this requirement shall be performed at +12.5% of the rated input voltage. Voltage and current waveforms will be observed on an oscilloscope following closure of the external power switch. Switch closure will be repeated until the waveforms show closure coincident with a voltage peak. The current measured during this occurrence will be defined as the peak inrush current.

3 OUTPUT REQUIREMENTS

| | | |
|-----|---------------------------|----------------|
| 3.1 | Nominal dc output voltage | + 5.0 V |
| 3.2 | Minimum load current | 0.0A |
| 3.3 | Rating load current | 3.0A |

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| | | |
|------|--------------------------|--|
| 3.4 | Peak load current | / |
| 3.5 | Rating output power | 15W |
| 3.6 | Line regulation | The line regulation is less than ±5% while measuring at rated load and +/-10% of input voltage changing. |
| 3.7 | Load regulation | The load regulation for +5.0V is less than +/-5% , at measured output load from 10% to 100% rated load . |
| 3.8 | Peak load regulation | The peak load regulation for +5.0V is less than / , at measured output load from 30% to 100% rated load. |
| 3.9 | Ripple and noise | 100 mVp-p |
| | | At 20 MHz, and output parallel with a 100nF ceramic capacitor and a 10μF electrolytic capacitor to ground temperature at 25 °C, and nominal AC input voltage |
| 3.10 | Switching efficiency | 70% minimum |
| | | At nominal input voltage and full load |
| 3.11 | Turn on delay time | 2000 mS At nominal input AC voltage and full load |
| 3.12 | Rise time | The Supply shall have a start-up rise time of less than 20 mS to rise to within regulation limits for all DC outputs. |
| 3.13 | Hold up time | 10 mS minimum At nominal input AC voltage and full load |
| 3.14 | Output over-shoot | Less than 7% of nominal voltage value |
| 3.15 | Temperature coefficient | Output voltage temperature coefficient ±0.05%/°C |
| 3.16 | LED indication function | / |
| 3.17 | Protection function | |
| | Over-voltage protection | 7.5V max.The output voltage shall be clamped by internal protection zener. |
| | Short-circuit protection | The adapter shall not damage and with auto recovery function by short the DC output to Ground. |
| | Over current protection | The power supply will be protection when output power over 110-200% of all rated dc output |

4 MECHANICAL

4.1 Enclosure And Layout

Plastic case: **UL94V-1**
 Weight : **158 g** (Max.)
 Dimensions: **82x43.5x30 mm**
 Colour : **black (LEAD FREE)**

4.2 Input and Output Configuration

Input pin: **European PIN**
 Output connector : dc plug type: **5.5*2.1*11mm**
 Polarity: **center:"+"**

| | | | | |
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KUANTECH(SHEN ZHEN) COMPANY LIMITED

Switching power supply specification(class B)

KUANTECH P/N:

CUSTOMER P/N:

KSAFD0500300W1EU

Cable: 6FT VW-1 80°C 300V 2468 18AWG 2C BLACK+WHITE (LEAD FREE)

5 REGULATORY COMPLIANCE

5.1 Safety Requirements and Certification

5.1.1 Regulatory Standard

The power supply shall complied the following international regulatory standards

| for short | Country | Certified Status | Standard/标准 |
|-----------|------------|------------------|-------------------------|
| UL | USA/美国 | Meet | UL 60950 |
| CSA | Canada/加拿大 | Meet | CSA C22.2 NO.950 |
| TUV | Europe/欧洲 | Meet | TUV/VDE-EN60950 |
| CE | Europe/欧洲 | Meet | Declared& CE Mark |
| PSE | Japan/日本 | Meet | J60950(H14)/J55001(H14) |
| BSMI | Taiwan/台湾 | Meet | CNS13438 |
| CCC | CHINA | Meet | GB4943-2001 |
| UK | Britain/英国 | Meet | EN60950:2000 |

5.1.2 Additional Safety Requirements

- ⊙ Dielectric Withstand Voltage, Primary(input AC short)-to-Secondary(output DC short): **3000 Vac, 10m A, 1 minute.**
- ⊙ Insulation Resistance, Input to output: **10M Ω at 500 VDC.**
- ⊙ Reinforced insulation system, Primary-to-Ground and Primary-to-Secondary.
- ⊙ The leakage current shall not exceed **0.25mA.**

6 ENVIRONMENTAL REQUIREMENTS

6.1 Temperature

- ⊙ Operating: 0°C +35°C
- ⊙ Non-Operating: -20°C +80°C

6.2 Humidity

- ⊙ Operating: 10%~90% (Non Condensing)
- ⊙ Non-Operating: 10%~90% (Non Condensing)

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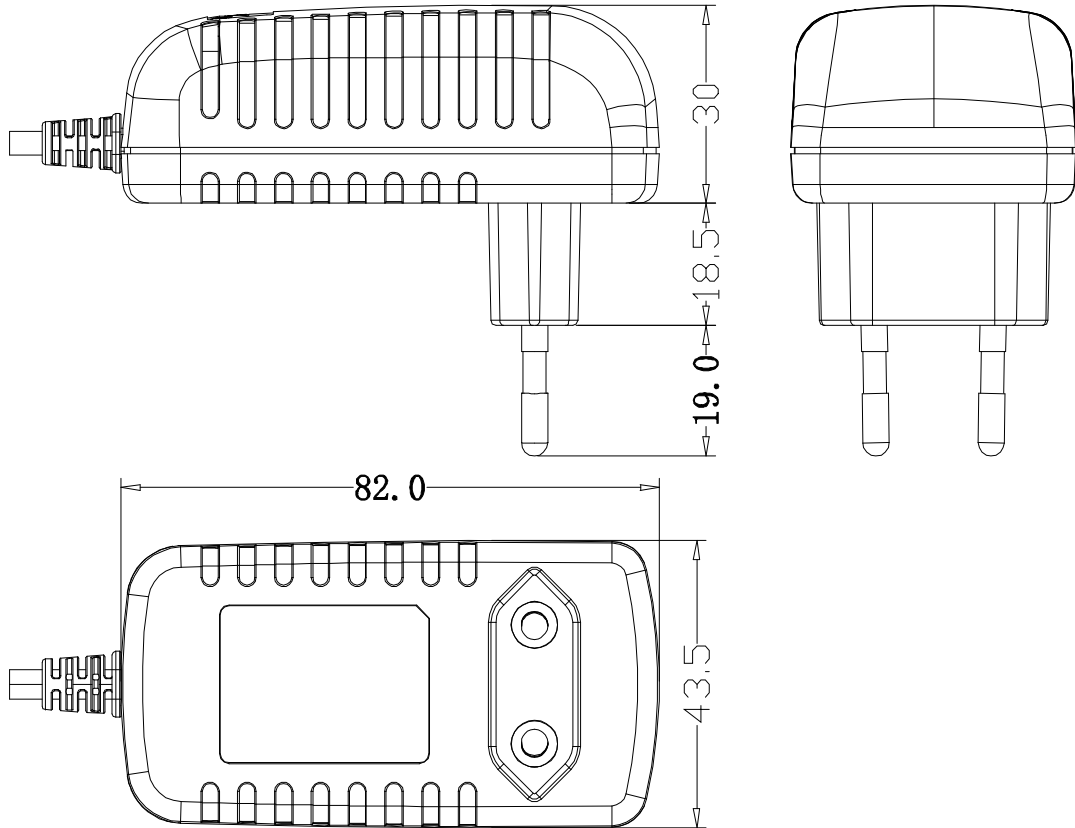
Switching power supply specification(class B)

KUANTECH P/N:

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KSAFD0500300W1EU

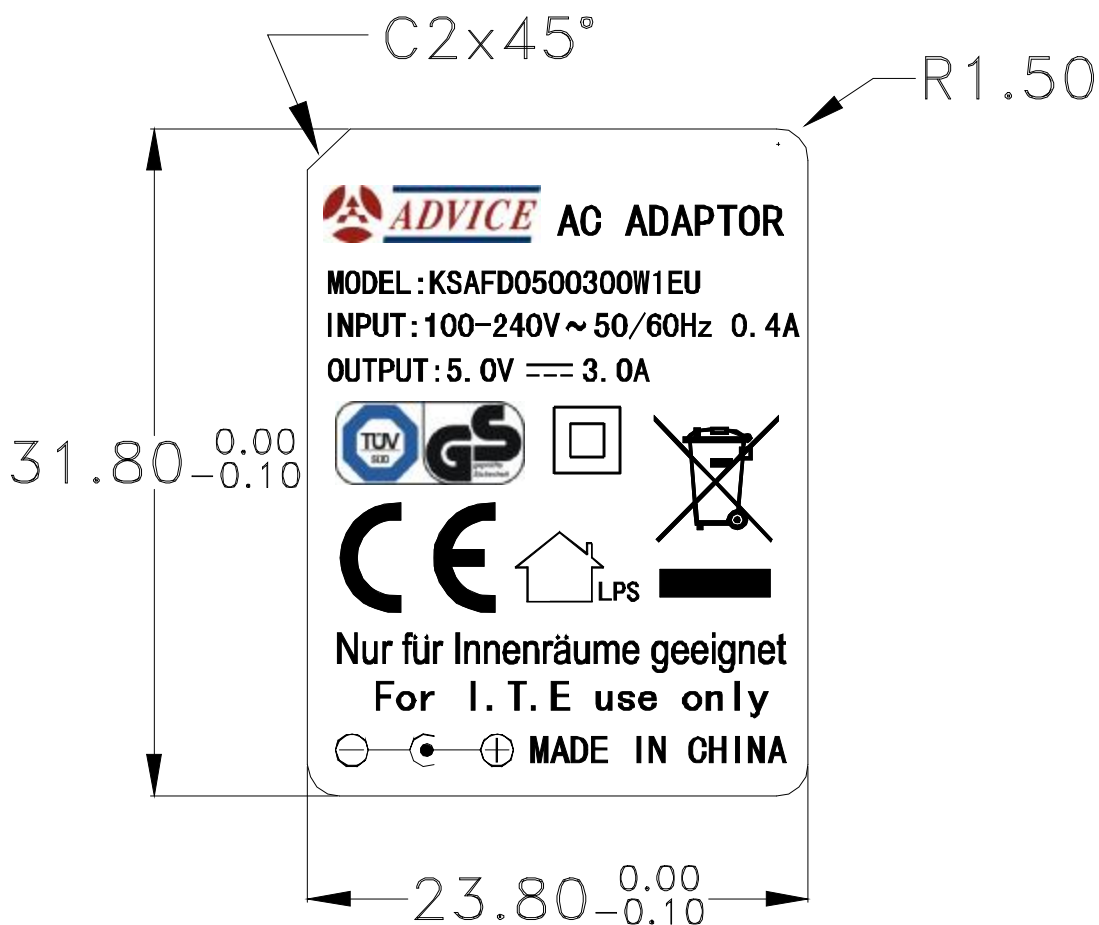
7 APPEARANCE DRAWING: (Unit: mm)



- NOTE:1. Case cover & chassis material:
PPHOX (UL94V-1) BLACK(NO KTEC)
2. AC PIN MATERIAL:BRASS (NI PLATED)
3. LEAD FREE

| | | | | |
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8 NAME PLATE:



- Note: 1. MATERIAL: POLYESTER+PVC; COATING:0.25+-0.05mm
 2. White characters Black background
 3. LEAD FREE

| | | | | |
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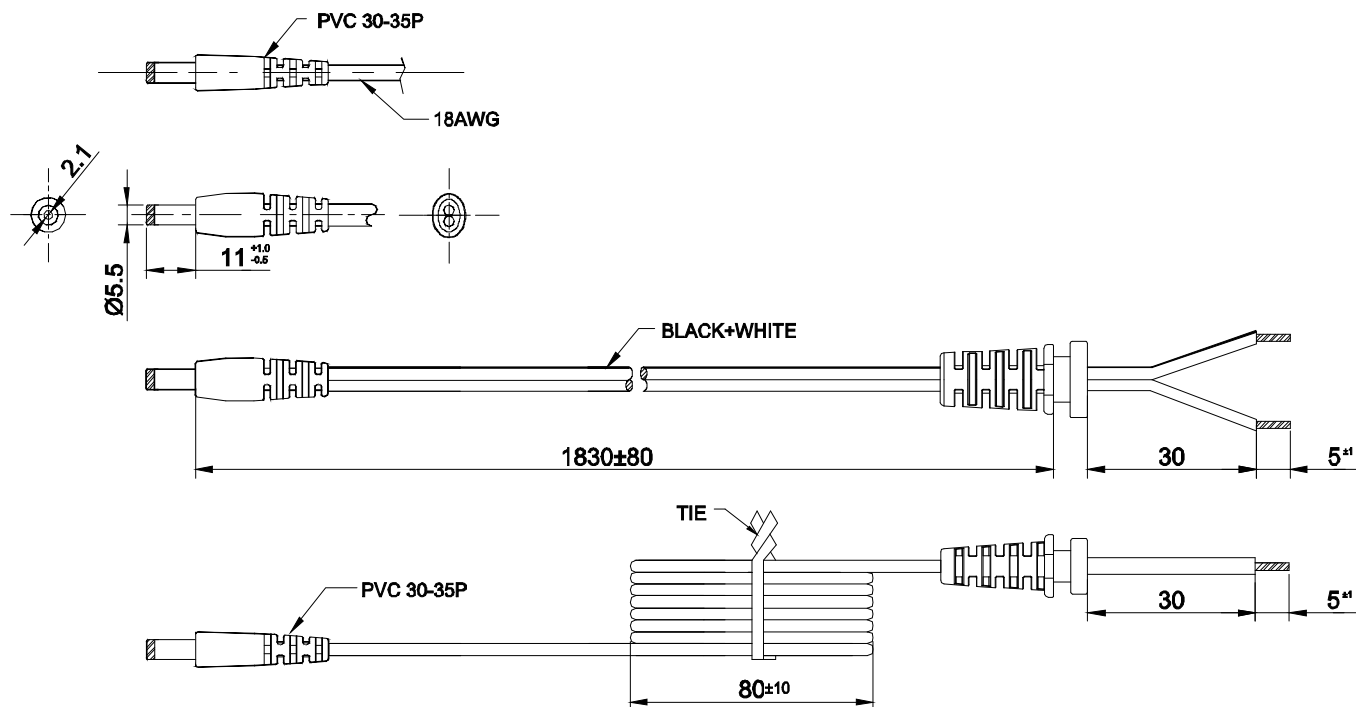
Switching power supply specification(class B)

KUANTECH P/N:

CUSTOMER P/N:

KSAFD0500300W1EU

9 DIMENSION OF OUTPUT PLUG & DC CORD (Unit: mm)



NOTE: (unit:mm)

- 1). WIRE TYPE: 2468 VW-1 80°C 300V L=6FT(1830mm) 2C 18AWG BLACK+WHITE
BLACK and WHITE----Positive BLACK---Negative
- 2). WIRE JACKET MATERIAL: PVC (94V-0)
- 3). THE POLARITY: \ominus \bullet \oplus

| | | | | |
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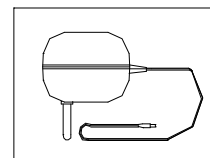
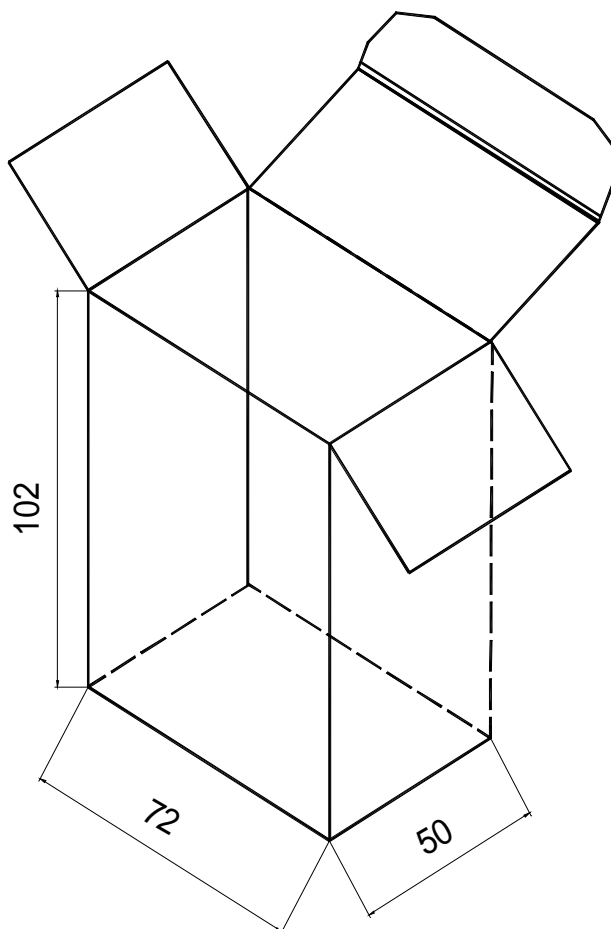
Switching power supply specification(class B)

KUANTECH P/N:

CUSTOMER P/N:

KSAFD0500300W1EU

10 BOX DRAWING



Bag

NOTE: WHITE BOX: 72*50*102 mm
MATERIAL:400g(LEAD FREE)

| | | | | |
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SAMPLE SHIPPING TEST REPORT / 样品测试报告

| CUSTOMER / 客户: | | ADVICE | | | | | | | | SAMPLE NO./样品编号 | | | | S26458 | | |
|-----------------|---------------------------------------|--|-------------------------|--------|--------|--------------|-------------------------|--------|--------|-----------------|-------------------------|--------|--------|--------|-------------|-----------|
| MODEL NO./产品型号: | | KSAFD0500300W1EU | | | | | | | | 机种名称 | | | | 15W | | |
| Sample form | | sample (one) | | | | sample (two) | | | | sample (three) | | | | | | |
| Items No. | Test Items / 测试项目 | Unit / 单位 | Test condition & result | | | | Test condition & result | | | | Test condition & result | | | | Spec. Limit | Pass/Fail |
| | | | 90Vac | 120Vac | 180Vac | 264Vac | 90Vac | 120Vac | 180Vac | 264Vac | 90Vac | 120Vac | 180Vac | 264Vac | | |
| 1 | Unload input current 空载输入电流 | mA | 8.9 | 9.6 | 16.2 | 18.5 | 9 | 9.9 | 16.3 | 18.5 | / | / | / | / | ≤25mA | PASS |
| 2 | Unload input power 空载输入功率 | W | 0.23 | 0.24 | 0.24 | 0.23 | 0.25 | 0.25 | 0.23 | 0.3 | / | / | / | / | ≤0.5W | PASS |
| 3 | Rated load input power 额定负载输入功率 | W | 19.9 | 19.48 | 19.6 | 19.58 | 20.07 | 19.6 | 19.64 | 19.8 | / | / | / | / | ≤21.43W | PASS |
| 4 | Unload output voltage 空载输出电压 | V | 5.223 | 5.223 | 5.223 | 5.223 | 5.234 | 5.234 | 5.234 | 5.234 | / | / | / | / | 4.75-5.25 | PASS |
| 5 | Rated load output voltage 额定负载输出电压 | V | 4.855 | 4.855 | 4.855 | 4.855 | 4.878 | 4.878 | 4.878 | 4.878 | / | / | / | / | 4.75-5.25 | PASS |
| 6 | Output ripple&noise voltage | mV | 46 | 44 | 42 | 40 | 40 | 38 | 36 | 34 | / | / | / | / | ≤100mVp-p | PASS |
| 7 | Dynamic load(20%-80%*Io | mV | 380 | 380 | 380 | 380 | 388 | 388 | 388 | 388 | / | / | / | / | ≤500mVp-p | / |
| 8 | Over current protection 过流保护点 | A | 4 | 4.3 | 4.8 | 4.8 | 3.8 | 4.1 | 4.2 | 4.2 | / | / | / | / | ref. | / |
| 9 | Short-circuit input power 短路输入功率 | W | 0.23 | 0.36 | 1.12 | 1.38 | 0.31 | 0.4 | 1.21 | 1.83 | / | / | / | / | ≤3W | PASS |
| 10 | Rated output current 额定输出电流 | A | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | / | / | / | / | 3A | PASS |
| 11 | Output overshoot 输出过冲幅度 | % | 2.6 | 2.6 | 2.6 | 2.6 | 2.4 | 2.4 | 2.4 | 2.4 | / | / | / | / | ≤7% | PASS |
| 12 | Input inrush current 输入浪涌电流 | A | | | | | | | | | | | | ≤60A | PASS | |
| 13 | Rated load input current 额定负载输入电流 | A | 0.307 | 0.243 | 0.141 | 0.136 | 0.318 | 0.249 | 0.141 | 0.132 | / | / | / | / | ≤0.4A | PASS |
| 14 | Efficiency 效率 | % | 73.19 | 74.77 | 74.31 | 74.39 | 72.91 | 74.66 | 74.51 | 73.91 | / | / | / | / | ≥70% | PASS |
| 15 | Drop test 跌落试验 | OK | | | | | | | | | | | | | | PASS |
| 16 | Burn-in test 老化试验 | 40oC Ambient, 80% load, 45min. ON and 15min. OFF, Burn-in 4Hrs | | | | | | | | | | | | | | PASS |
| 17 | Hi-pot test 介电强度 | INPUT TO OUTPUT: 3000Vac, 1 Minute, Cut off current ≤10mA | | | | | | | | | | | | | | PASS |

| | | | |
|-----------|-----------|----------------|------------------|
| DATE/日期: | 2007-12-6 | EDITION /版本: 2 | PAGE/页码: 1 |
| TEST/测试员: | 孙琪 | CHECK/审核: 梁永涛 | APPROVAL/审核: 周松平 |

RoHS Specification

1. Except for the specific applications of lead specifically listed in section figure 11, all materials, parts, components, and/or products and accessories may not contain RoHS restricted substances as a homogenous material greater than:
- (1) Lead (Pb): in quantity limit of 0.1% by weight or 1000 PPM.
 - (2) Mercury (Hg): in quantity limit of 0.1% by weight or 1000 PPM.
 - (3) Hexavalent Chromium (Cr^{VI}): in quantity limit of 0.1% by weight or 1000 PPM.
 - (4) Poly Brominated Biphenyls (PBB): in quantity limit of 0.1% by weight or 1000 PPM.
 - (5) Poly Brominated Diphenyl Ethers (PBDE): in quantity limit of 0.1% by weight or 1000 PPM.
 - (6) Cadmium (Cd): in quantity limit of 0.01% by weight or 100 PPM.
11. The materials, parts, components, and/or products and accessories must meet the specification listed in section Figure 1, General Compliance as applicable except for the following application specific examples listed below. This is not intended to be a comprehensive list. For a comprehensive list, please see European Union's Directive 2002/95/EC, Restriction of Hazardous Substance: Annex of 4(1). "Applications of Lead, Mercury, and Cadmium, and Hexavalent Chromium which are exempt from the requirements".
- (a) *Leaded glass used in cathode ray tubes, electronic components, and fluorescent tubes.*
 - (b) Lead (Pb) in steel (0.35% or 3500 PPM), aluminum alloys (0.4% or 4000PPM), or copper alloys (including bronzes, brasses, 4.0% or 40,000 PPM).
 - (c) Lead (Pb) in high melting temperature type solders (e.g. tin-lead solder alloys containing more than 8.5% lead).
 - (d) Lead (Pb) in electronic ceramic parts (e.g. piezoelectric devices).

Approved By:



Checkde By:



Prepared By:





Product Service

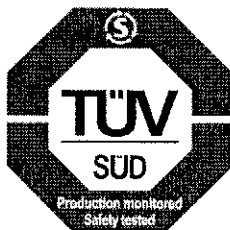
CERTIFICATE

No. Z1A 05 08 48694 181

Holder of Certificate: **Kuantech (Shenzhen) Co., Ltd.**

6th Honghua Road, Gongming Town
 Baoan District, Shenzhen
 PEOPLE'S REPUBLIC OF CHINA

Certification Mark:



Product:

Switch mode power supply

The product meets the requirements of the German Equipment and Product Safety Act. The Certification marks shown above can be affixed on the product. The use of the GS-Mark is permitted until the listed date, the use of the TÜV-Mark is unlimited, unless it is cancelled. See also notes overleaf.

Test report no.: 64210344704

GS-Mark valid until: 2010-09-01

Date, 2005-09-01

Page 1 of 14



CERTIFICATE

No. Z1A 05 08 48694 181

Model(s):

KSAFDXXXYYYYW1EU
 KSAFDXXXYYYYW1UV
 (XXX=028-240, YYYY=0001-0300)
 XXX indicates rated output voltage 2,8-24,0 V d.c.
 YYYY indicates rated output current 10-3000 mA

Parameters:

| | |
|-----------------------|----------------------------------|
| Rated voltage: | 100-240 V |
| Rated current: | 0,4 A |
| Rated frequency: | 50/60 Hz |
| Rated output voltage: | 2,8-24,0 V d.c. |
| Rated output current: | 10-3000 mA |
| Protection class: | II |
| Degree of protection: | IPX0 |
| Remark: | See page 3-14 for model details. |

Tested according to:

EN 60950-1/A11:2004

Factory(ies):

48694



Product Service

EC-Attestation of Conformity

No. N8N 05 09 48694 186

Holder of Certificate: **Kuantech (Shenzhen) Co., Ltd.**

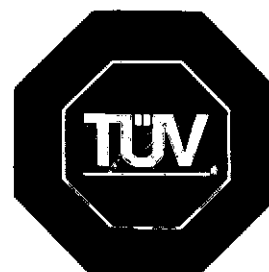
6th Honghua Road, Gongming Town
 Baoan District, Shenzhen
 PEOPLE'S REPUBLIC OF CHINA

Product: **Switch mode power supply**

This EC-Attestation of Conformity is issued on a voluntary basis according to the Low Voltage Directive 73/23/EEC relating to electrical equipment designed for use within certain voltage limits. It confirms that the listed equipment complies with the principal protection requirements of the directive. It refers only to the particular sample submitted for testing and certification. See also notes overleaf.

Test report no.: 64210344704

Date, 2005-09-02



After preparation of the necessary technical documentation as well as the conformity declaration the required CE marking can be affixed on the product. Other relevant directives have to be observed.



EC-Attestation of Conformity

No. N8N 05 09 48694 186

Model(s):

KSAFDXXXYYYYW1EU

KSAFDXXXYYYYW1UV

(XXX=028-240, YYYY=0001-0300)

XXX indicates rated output voltage 2,8-24,0 V d.c.

YYYY indicates rated output current 10-3000 mA

Parameters:

Rated voltage: 100-240 V

Rated current: 0,4 A

Rated frequency: 50/60 Hz

Rated output voltage: 2,8-24,0 V d.c.

Rated output current: 10-3000 mA

Protection class: II

Degree of protection: IPX0

Remark: See page 3-14 for model details.

Tested according to:

EN 60950-1/A11:2004

Main-Certificate no.:

Z1A 05 08 48694 181



Jiangsu TÜV Product Service Ltd. Guangzhou Branch- 26/F , Dongbao Tower, #767 Dongfeng Road East, Guangzhou, P. R. China

Competence.
Certainty.
Quality.

Kuantech (Shenzhen) Co., Ltd.
6th Honghua Road, Gongming Town
Baoan District, Shenzhen
PEOPLE'S REPUBLIC OF CHINA

| Your Reference | Our Reference./Name | Telephone no./E-Mail | Fax no. | Date | Total Page |
|----------------|---------------------|---|-----------------|------------------|------------|
| | | +86 20 38320668 Ext.228 tracy.xie@tuvps.com.cn | +86 20 38320478 | 5 September 2005 | |

Subject: Certificates

Dear Sir or Madam,

We are pleased to attach your certificate no. :
Z1A 05 08 48694 181. Could you please return the original invalid certificate with the no.: **Z1A 05 04 48694 137**. Let us give you some additional information which we consider to be important for you:

- The product has to be accompanied by a user manual in the language of the country where it supposed to be sold.
- To ensure that validity of the certificate is not put at risk please inform us about any change in your production or of the product itself.
- The certification will allow you to sell your products easier and without less risks. The annual license fee will be **8.0** units for maintaining these advantages.

Further information for the use of our marks is contained in our testing and certification regulations. We look forward to our co-operation and will assist you at any time.

Yours sincerely

TÜV Product Service Guangzhou Branch

Banking connection:
Guangzhou Commercial Bank
Account No.:
897-308-8003781-89 (RMB)
897-308-8003787-69 (USD)

Telephone: +86 20 38320668
Telefax : +86 20 38320478
<http://www.tuvps.com.cn>

Jiangsu TÜV Product Service Ltd.
Guangzhou Branch
TÜV SUD Group

26/F, Dongbao Tower
#767 Dongfeng Road East
Guangzhou
P. R. China